

AMENDMENTS

In the Claims:

Please amend claims 1, 9-12, and 39-44, and add new claims 45-58 as follows:

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1. (Amended) An apparatus for allowing specific identification of samples with probes, comprising

a flexible elongated substrate having a first substrate surface, a length, and a width; and
a plurality of non-identical probes immobilized on discrete areas of a probe-containing portion of the substrate surface, each of said discrete areas containing one probe,

wherein the flexible elongated substrate is coiled with overlapping portions and non-overlapping portions, and said probes are present on said non-overlapping portions.

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9. (Amended) The apparatus of claim 1 wherein a ratio of the length to the width of the substrate exceeds 5:1.

10. (Amended) The apparatus of claim 1 wherein a ratio of the length to the width of the substrate exceeds 100:1.

11. (Amended) The apparatus of claim 1 wherein a ratio of the length to the width of the substrate exceeds 10,000:1.

12. (Amended) The apparatus of claim 1 wherein a ratio of the length to the width of the substrate exceeds 100,000:1.

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39. (Amended) An apparatus according to claim 28 wherein the probe is a binding partner for a target selected from the group consisting of polynucleotides, oligonucleotides,

proteins, polypeptides, oligosaccharides, antibodies, cell receptors, ligands, lipids, cells, and combinations thereof.

40. (Amended) An apparatus according to claim 30 wherein the probe is a binding partner for a target selected from the group consisting of polynucleotides, oligonucleotides, proteins, polypeptides, oligosaccharides, antibodies, cell receptors, ligands, lipids, cells, and combinations thereof.

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41. (Amended) An apparatus according to claim 33 wherein the probe is a binding partner for a target selected from the group consisting of polynucleotides, oligonucleotides, proteins, polypeptides, oligosaccharides, antibodies, cell receptors, ligands, lipids, cells, and combinations thereof.

42. (Amended) An apparatus according to claim 28 wherein the substrate comprises a material selected from the group consisting of silica, glass, optical fibers, metals, magnetizable metals, plastics, polymers, polyimide, and polytetrafluoroethylene.

43. (Amended) An apparatus according to claim 30 wherein the substrate comprises a material selected from the group consisting of silica, glass, optical fibers, metals, magnetizable metals, plastics, polymers, polyimide, and polytetrafluoroethylene.

44. (Amended) An apparatus according to claim 33 wherein the substrate comprises a material selected from the group consisting of silica, glass, optical fibers, metals, magnetizable metals, plastics, polymers, polyimide, and polytetrafluoroethylene.

45. (New) An apparatus according to claim 1 wherein the substrate is wound upon itself as a spiral.

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46. (New) An apparatus according to claim 1 wherein the substrate is wound upon itself as a flat spiral.

47. (New) An apparatus according to claim 1 further comprising an elongated support member, and wherein the probe containing portion of the substrate surface is distal from the support member.

48. (New) An apparatus according to claim 47 wherein said flexible elongated substrate is attached by an adhesive to at least a portion of the support member.

49. (New) An apparatus according to claim 47 wherein said flexible elongated substrate is removably coiled on the support member.

50. (New) An apparatus according to claim 47 wherein the flexible elongated substrate has a notch on a surface of the substrate distal to where the flexible elongated substrate contacts the support member and wherein the plurality of probes are mounted within the notch.

51. (New) An apparatus according to claim 47 wherein the support member is contained within a cassette.

52. (New) An apparatus according to claim 1 further comprising a planar disk support member having an axis about which the flexible elongated substrate is coiled, wherein the probe containing portion of the substrate surface is distal from the support member, and the plurality of probes are circumaxially distributed for receiving a target molecule.

53. (New) An apparatus according to claim 52 wherein the planar disk support member has a spiral groove about an axis in a surface of the planar disk support member, and

the flexible elongated substrate is coupled to the disk support member along the spiral groove.

54. (New) An apparatus according to claim 1 wherein the flexible elongated substrate is a flexible thread substrate.

55. (New) An apparatus according to claim 54 wherein a cross-sectional shape of the flexible thread substrate has a D-shape, and wherein the plurality of probes are mounted within a notch on the surface of the thread substrate.

56. (New) An apparatus according to claim 1 wherein the flexible elongated substrate carries a one-dimensional array of probes.

57. (New) An apparatus according to claim 1 wherein the probes are arranged as a linear configuration of spots.

58. (New) An apparatus according to claim 1 wherein the probes are arranged in a linear configuration of stripes, said stripes being at an angle to the long axis of the substrate.